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10/589,954

08/18/2006

Takeshi Uemura

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2110

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EXAMINER

DAVIS, OCTAVIA L

ART UNIT

PAPER NUMBER

2855

MAIL DATE

DELIVERY MODE

05/28/2008

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

### Office Action Summary

**Application No.**

10/589,954

**Applicant(s)**

UEMURA ET AL.

**Examiner**

OCTAVIA DAVIS

**Art Unit**

2855

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 14 February 2008.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 10-18 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 10-18 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SE/US)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

**DETAILED ACTION**

***Claim Rejections - 35 USC § 103***

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 10 and 15 - 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Terada et al (5,854,427) in view of Watanabe (7,068,744).

Regarding claims 10, 15, 16 and 18, Terada et al disclose an angular velocity sensor comprising a sensor having a drive electrode(s) 7, 8, 11, 12 portion into which is inputted a drive signal, a monitor electrode(s) 9,10,13,14 portion that detects an oscillation frequency of the sensor and outputs the detected frequency as a monitor signal, a sense electrode portion 6 that outputs a sense signal which is generated due to an angular velocity applied to the sensor and synchronized with the monitor signal (See Col. 3, lines 1 - 13) but does not disclose control portion including a reducing means that removes, as a noise component(s), unwanted signal components of the sense signal. However, Watanabe discloses a synchronous detection method and device, and sensor signal detector comprising sensing or detection electrodes 22, 24 that output detection signals SP, SM of which are processed by a detector circuit 4, a differential amplifier 34 and a synchronous detection unit 36 to obtain a detection signal SS1 whose noise components are removed by means 40, 60 (See Col. 10, lines 3 - 11 and Col. 16, lines 16 - 21).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Terada et al according to the teachings of Watanabe for the purpose of, advantageously removing high frequency noise components from a detection signal to efficiently minimize the noise without the necessity of a LPF that required a large time constant (See Watanabe, Col. 1, lines 49 - 55).

Regarding claim 17, in Terada et al, a monitor amplifier 21 amplifies the monitor signal and a sense amplifier 25 amplifies the sense signal, wherein the signals are equal (See Col. 4, lines 27 - 36).

***Claim Rejections - 35 USC § 103***

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 11 - 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Terada et al (5,854,427) in view of Watanabe (7,068,744), as applied to claims 10 and 15 - 18 above, and further in view of Nozoe et al (6,959,584).

Regarding claims 11 - 14, Terada et al and Watanabe disclose all of the limitations of these claims except a memory portion that includes a data input terminal of which changes from a conducting state to a non-conducting state, generating the correction signal based on the memory portion and the monitor signal and the correction portion including a ladder resistor and switch portion that adjusts a resistance value of the ladder resistor according to the data stored in memory. However, Nozoe et al disclose an angular velocity sensor comprising a ladder network resistor that

is used as an adjuster 36a that adjusts a signal level by sending digital data to the resistor and optimum data that are stored in a memory (See Col. 17, lines 3 - 21), the memory portion including a data input terminals 24, 25 and switches 55, 56 that select the polarity of a driving signal supplied to the adjuster (See Col. 15, Lines 17 - 21).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Terada et al and Watanabe according to the teachings of Nozoe et al for the purpose of, advantageously obtaining a high accurate sensor in which the influence of the electrostatic coupling capacitors is suppressed in a normal operating condition (See Nozoe et al, Col. 17, lines 10 -14).

### ***Response to Arguments***

5. Applicant's arguments with respect to claims have been considered but are moot in view of the new grounds of rejection.

### ***Conclusion***

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Octavia Davis whose telephone number is 571-272-2176. The examiner can normally be reached on Mon through Thurs from 9 to 5. The examiner can also be reached on alternate Fridays.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Edward Lefkowitz, can be reached on 571-272-2180. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

/Edward Lefkowitz/

Supervisory Patent Examiner, Art Unit 2855

OD/2855

5/23/08